

and in N. 42° 17', W. 49° 55', at 10.30 a. m. Reports received from Newfoundland stated that the coast around Saint John's was packed with ice, and that vessels ready for sea were unable to proceed. The steamer "Newfoundland" was to have sailed on the 22d for Halifax, but had not been able to leave up to the evening of the 23d. A cable dispatch received stated that it was expected that the block would be broken up sufficiently by night to allow vessels to sail.

24th.—The s. s. "Etruria," in N. 42° 38', W. 48° 40', at 2.15 p. m., passed a medium sized iceberg, and at 3.15 p. m., in N. 42° 24', W. 49° 0', passed an iceberg. The s. s. "Carthaginian," in N. 42° 16', W. 51° 08', passed a large berg. The steamship "Newfoundland" encountered a tremendous ice-field off Cape Race on the night of the 24th, and had to remain on the edge of it until the following morning, when she passed through, the passage taking three hours. Her bow was damaged by ice. On the 25th vessels were seen on the outer edge, being unable to continue on their way.

25th.—The s. s. "Istrian," in N. 44° 0', W. 49° 15', at 1 p. m., passed icebergs. The s. s. "Jan Breydel," in N. 43° 30', W. 49° 20', passed two bergs.

26th.—The s. s. "Llandaff City," in N. 42° 54', W. 50° 37', passed two large bergs. The s. s. "Prussian," in N. 42° 36', W. 48° 30', passed a small berg. The s. s. "Polaria," in N. 42° 40', W. 50° 56', passed quantities of drift ice.

27th.—The s. s. "Dominion," in N. 43° 30', W. 49° 0', passed three large bergs.

FOG.

In each of the instances wherein fog was encountered

in the vicinity of the Banks of Newfoundland, or along the southern margin of the ice-field, the vessel was either within the area of a barometric depression in close proximity to its centre, or to the eastward of an advancing depression whose approach had occasioned continued winds from the southern quadrants. It is observable, therefore, in this connection, that the conditions which appeared favorable for fog development in this region during March, 1887, corresponded with those noted for preceding months.

The following are the limits of fog-areas on the north Atlantic Ocean during March, 1886, as reported by shipmasters:

Dates.	Vessel.	Entered.		Cleared.	
		Lat. N.	Lon. W.	Lat. N.	Lon. W.
2d	Bk. Josephine	40 56	69 08, 1.20 p. m.	41 07	69 08, 3.00 p. m.
5th	S. S. California	42 06	56 30, 1.00 a. m.	42 30	59 30, 11.00 p. m.
6th	Bg. Edward D.	38 34	72 18, 1.00 a. m.		
6th	S. S. Rotterdam	40 28	70 46	40 28	69 36
6th	S. S. Rotterdam	40 28	69 18	40 28	69 00
8th	Bg. Edward D.			39 00	73 58, midnight.
10th	S. S. Erin	43 50	47 15	43 36	48 33
11th	S. S. Erin	43 00	50 30	42 55	51 15
12-14th	Dense fog prevailed at Saint John's, N. F.				
13th	S. S. British Crown	45 37	47 30		
13th	S. S. Norseman	43 20	48 36, 12.30 to 12.44 a. m.		
13th	S. S. Norseman	42 38	53 00, 9.30 to 11.25 p. m.		
14th	S. S. Borderer	43 29	48 14, 8.00 a. m.	43 00	49 25, 4.30 p. m.
15th	S. S. British Crown			44 00	57 00
16th	S. S. Bavarian	42 48	49 25, 4.30 a. m.	42 52	49 56, 10.00 a. m.
19-20th	S. S. Adriatic	42 06	48 40	42 23	47 59

TEMPERATURE OF THE AIR (expressed in degrees, Fahrenheit).

The distribution of mean temperature over the United States and Canada for March, 1887, is exhibited on chart ii by the dotted isothermal lines. In the table of miscellaneous data are given the monthly mean temperatures, with the departures from the normal, for the various stations of the Signal Service, and in the figures above the geographical districts, the average temperature and departure for each district. The normal for any district may be found by adding the departure to the current mean for the district when the departure is below the normal, and subtracting when above. On chart iv the departures from the normal are illustrated by lines connecting stations of normal or equal abnormal values.

The temperature of the month is below the normal in all states bordering on the Lakes and Atlantic Ocean, along the coast of the east Gulf states, and in southern Texas. The departures in these districts are nowhere very large, the greatest occur in the Lake region, where they average about 3°.0 below the normal. In Tennessee, Kentucky, southern Illinois, and from the Mississippi River westward to the Pacific Ocean, the temperature is above the normal, slightly along the eastern slope of the Rocky Mountains and Pacific coast, and considerably in the plateau regions. The month was remarkable for the extremely low temperatures that prevailed in the Southern States and Ohio Valley on the 28-30th, the minimum temperature in these districts occurring on the 29th.

The following are some of the most marked departures from the normal temperature at Signal Service stations:

Above normal.		Below normal.	
Pike's Peak, Colo.	7.2	Marquette, Mich.	4.7
Prescott, Ariz.	7.1	Oswego, N. Y.	4.7
Denver, Colo.	6.6	Albany, N. Y.	4.0
Fort Grant, Ariz.	6.4	Baltimore, Md.	4.0
Helena, Mont.	6.4	Sandusky, Ohio.	3.8
Fort Maginnis, Mont.	5.9	Alpena, Mich.	3.6

RANGES OF TEMPERATURE.

The monthly, and the greatest and least daily, ranges of

temperature, are given in the table of miscellaneous meteorological data.

The following are some of the greatest and least monthly ranges at Signal Service stations:

Greatest.		Least.	
Yankton, Dak.	79.0	Tatoosh Island, Wash.	21.6
Valentine, Nebr.	78.9	Key West, Fla.	23.2
Fort Assinaboine, Mont.	74.9	Port Angeles, Wash.	29.6
Fort Totten, Dak.	74.7	Philadelphia, Pa.	31.5
Fort Custer, Mont.	73.9	San Francisco, Cal.	33.0
Huron, Dak.	72.2	New York City	33.3

DEVIATIONS FROM NORMAL TEMPERATURES.

In the table below are given, for certain stations, as reported by voluntary observers, the normal temperatures of March for a series of years, the mean temperature for March, 1887, and the departures from the normal:

Station.	County.	Normal temperature for March.	Number of years.	Mean temperature for Mar., 1887.	Departure.
<i>Arkansas.</i>					
Lead Hill	Boone	48.4	5	51.4	+ 3.0
<i>California.</i>					
Sacramento	Sacramento	54.6	21	54.2	- 0.4
<i>Connecticut.</i>					
Middletown	Middlesex	33.3	29	30.3	- 3.0
New Haven	New Haven	35.8	101	31.3	- 4.5
Waterbury	New Haven	33.4	12	28.0	- 5.4
<i>Florida.</i>					
Archer	Alachua	59.8	4	55.3	- 4.5
<i>Illinois.</i>					
Collinsville	Madison	41.9	8	44.6	+ 2.7
Mattoon	Coles	38.0	7	41.0	+ 3.0
Peoria	Peoria	38.3	31	38.9	+ 0.6
Riley	McHenry	30.0	26	28.8	- 1.2
Sandwich	De Kalb	34.2	35	34.4	+ 0.2
Sycamore	De Kalb	31.4	6	30.4	- 1.0
<i>Indiana.</i>					
Lafayette	Tippecanoe	36.2	8	37.6	+ 1.4
Logansport	Cass	41.1	33	37.2	- 3.9
Vevay	Switzerland	42.8	21	42.9	+ 0.1
<i>Iowa.</i>					
Monticello	Jones	32.1	34	32.0	- 0.1
Muscatine	Muscatine	34.4	49	34.4	0.0

Deviations from normal temperatures—Continued.

Station.	County.	Normal temperature for March.	Number of years.	Mean temperature for Mar., 1887.	Departure.
Kansas.					
Independence.....	Montgomery.....	45.1	16	48.4	+ 3.3
Lawrence.....	Douglas.....	41.5	19	43.4	+ 1.9
Wellington.....	Sumner.....	43.7	9	48.8	+ 5.1
Louisiana.					
Grand Coteau.....	Saint Landry.....	64.8	4	64.9	+ 0.1
Maine.					
Belfast *.....	Waldo.....	29.8	28	28.1	- 1.7
Cornish.....	York.....	28.2	30	26.2	- 2.0
Gardiner *.....	Kennebec.....	29.4	51	27.5	- 1.9
Orono *.....	Penobscot.....	26.8	19	25.9	- 0.9
Maryland.					
Cumberland.....	Alleghany.....	37.4	15	34.9	- 2.5
Fallston.....	Harford.....	38.2	16	34.6	- 3.6
Massachusetts.					
Amherst *.....	Hampshire.....	32.6	50	30.7	- 1.9
Cambridge *.....	Middlesex.....	33.9	65	30.1	- 3.8
Fitchburg *.....	Worcester.....	30.4	31	27.5	- 2.9
New Bedford *.....	Bristol.....	34.9	75	31.4	- 3.5
Somerset.....	Bristol.....	34.0	17	33.0	- 1.0
Springfield *.....	Hampden.....	32.6	20	30.4	- 2.2
Taunton *.....	Bristol.....	35.1	16	31.8	- 3.3
Williamstown *.....	Berkshire.....	30.3	33	25.3	- 5.0
Nevada.					
Carson City.....	Ormsby.....	40.9	8	46.4	+ 5.5
New Hampshire.					
Concord *.....	Merrimac.....	30.8	19	28.2	- 2.6
Hanover *.....	Grafton.....	27.2	27	26.7	- 0.5
New Jersey.					
Dover.....	Morris.....	31.5	4	29.6	- 1.9
South Orange.....	Essex.....	35.8	17	33.4	- 2.4
New York.					
Factoryville.....	Tioga.....	33.9	5	31.4	- 2.5
North Volney.....	Oswego.....	28.0	20	24.9	- 3.1
Palermo.....	Oswego.....	23.0	33	23.0	0.0
Ohio.					
Wauseon.....	Fulton.....	32.4	17	31.5	- 0.9
Pennsylvania.					
Dyberry.....	Wayne.....	28.9	23	25.7	- 3.2
Grampian Hills.....	Clearfield.....	29.1	17	29.5	+ 0.4
Wellsborough.....	Tioga.....	33.6	10	30.7	- 2.9
South Carolina.					
Stateburg.....	Sumter.....	53.2	7	51.9	- 1.3
Texas.					
New Ulm.....	Austin.....	63.0	15	64.2	+ 1.2
Vermont.					
Lunenburg *.....	Essex.....	25.8	38	23.4	- 2.4
Newport *.....	Orleans.....	24.7	13	21.1	- 3.6
Strafford.....	Orange.....	26.0	13	22.3	- 3.7
Virginia.					
Bird's Nest.....	Northampton.....	46.3	19	42.8	- 3.5
Dale Enterprise.....	Rockingham.....	41.6	7	42.0	+ 0.4
Variety Mills.....	Nelson.....	44.1	10	40.6	- 3.5
Wytheville.....	Wythe.....	42.5	22	40.8	- 1.7
West Virginia.					
Helvetia.....	Randolph.....	39.1	11	37.4	- 1.7
Wisconsin.					
Delavan.....	Walworth.....	27.9	4	26.8	- 1.1

* From the "Bulletin of the New England Meteorological Society."

The following notes on temperature are furnished by voluntary observers:

Illinois.—Riley, McHenry, Co.: the warmest March in the past twenty-six years occurred in 1878; mean temperature, 41° 7; the coldest in that time occurred in 1877, mean, 21° 9.

Indiana.—Lafayette, Tippecanoe Co.: in the past eight years the maximum temperature for March is 76° 0, in 1876; the minimum, -5° 0, in 1884.

Logansport, Cass Co.: during the past thirty-three years the highest March temperature, 84° 0, occurred in 1875; the lowest, -10° 0, also in 1875.

Vevay, Switzerland Co.: comparisons of temperature for the month of March, 1887, with the March means of the past twenty-one years: the maximum temperature, 76° 0, on the 2d, is 3° 7 above the mean maximum; the minimum, 18° 0, on the 29th, is 2° 5 above the mean minimum; the range, 58°, is 1° 2 greater than the average range.

Iowa.—Monticello, Jones Co.: the maximum March temperature of the past thirty-four years is 78° 0, in 1875; the minimum, -14° 0, in 1878.

Maryland.—Cumberland, Alleghany Co.: temperature table for March of the past fifteen years:

Year.	Highest.	Lowest.	Mean.	Year.	Highest.	Lowest.	Mean.
1873.....	68.0	4.0	38.0	1882.....	72.0	24.0	43.0
1874.....	66.0	20.0	31.0	1883.....	66.0	12.0	35.0
1875.....	69.0	18.0	30.0	1884.....	65.0	8.0	40.0
1876.....	71.0	11.0	36.5	1885.....	66.0	6.0	33.0
1877.....	62.0	6.0	39.0	1886.....	68.0	12.0	40.0
1878.....	74.0	20.0	46.0	1887.....	60.0	18.0	35.0
1879.....	70.0	22.0	39.0				
1880.....	70.0	20.0	38.5	Average.....	67.2	13.6	37.4
1881.....	62.0	24.0	37.0				

Fallston, Harford Co.: during the past sixteen years the warmest March occurred in 1871, mean temperature, 46° 2; the coldest in 1885, mean, 30° 6.

Maine.—Cornish, York Co.: the warmest March of the past thirty years occurred in 1871, mean temperature, 36° 2; the coldest in 1863, mean, 20° 7.

New York.—Palermo, Oswego Co.: during the past thirty-three years the highest mean temperature for March, 38° 1, occurred in 1878; the lowest mean, 19° 0, in 1872 and 1883.

North Volney, Oswego Co.: the coldest March in the past twenty years occurred in 1885, the mean temperature of the month being 18° 6; the warmest occurred in 1878, mean, 37° 4.

Ohio.—Wauseon, Fulton Co.: during March in the past seventeen years the highest mean temperature, 43° 2, occurred in 1878; the lowest mean, 24° 5, in 1885; the highest maximum temperature, 79° 5, in 1875; the lowest minimum, -17° 4, in 1883.

Pennsylvania.—Dyberry, Wayne Co.: the highest March mean temperature of the past twenty-three years, 37° 5, occurred in 1878; the lowest mean, 19° 5, in 1885.

Grampian Hills, Clearfield Co.: the highest March mean temperature of the past seventeen years, 36° 4, occurred in 1871; the lowest, 20° 1, in 1885.

South Carolina.—Stateburg, Sumter Co.: during March of the past seven years the highest mean temperature, 59° 0, occurred in 1882; the lowest mean, 48° 3, in 1885; the highest maximum temperature, 89° 0, in 1882; the lowest minimum, 26° 0, in 1885.

Virginia.—Wytheville, Wythe Co.: during March of the past twenty-two years the highest maximum, 76° 0, and the lowest minimum, -1° 0, occurred in the same year, viz., 1869.

FROSTS.

Savannah, Ga.: cold and clear weather prevailed on the 18th and 19th, with frost and formations of ice on calm water. The frost did considerable damage to fruit trees, field crops, and vegetation of all kinds in the numerous truck farms contiguous to the city. Frosts occurred also on the mornings of the 29th and 30th, considerably injuring vegetation. Reports from Columbia, S. C., state that very cold weather prevailed on the 18th and 19th, with a destructive frost on the morning of the 19th. This frost was general along the coast line of the Carolinas, and injured early vegetables on the truck farms of that district to the estimated extent of \$100,000.

Raleigh, N. C.: during the 28th and 29th very cold weather prevailed, the temperature falling 33° on the 28th, and reaching the minimum of the month, 24°, on the night of the 29-30th. Heavy hoar frost occurred each night, doing much damage to fruit trees and garden plants. Reports from the voluntary observers at Aiken, Spartanburg, and Kirkwood, S. C., state that the heavy frosts of the latter part of the month were very destructive to vegetables and the blossoms of fruit trees.

Louisville, Ky.: on the 28th and 29th very low temperatures prevailed, the minimum, on the morning of the 29th, being 18° 0. Reports from the surrounding country state that this cold wave did serious damage to fruit trees.

Lynchburg, Va.: very low temperatures prevailed on the 29th; minimum, 26° 5; early fruit and vegetables are reported to have been considerably damaged.

Norfolk, Va.: reports from the surrounding country indicate that serious damage was done to vegetables by the snow and ice of the morning of the 29th.

Fort Smith, Ark.: on the 28th and 29th heavy frost occurred in the western part of the state and the eastern part of the Indian Territory, doing much damage to peach trees, the greater number of which were in full bloom.

Little Rock, Ark.: the heavy frosts of the 29th and 30th did much damage to fruit trees, which were in blossom. On the morning of the 29th thin ice formed on calm water. The voluntary observer at Lead Hill states that on the morning of the 29th the temperature fell to 21°, with heavy frost, which killed nearly all the peach blossoms.

Cairo, Ill.: very cold weather and killing frosts occurred on the mornings of the 28th and 29th; minimum temperature, 24° 2, on the 29th. The observer states that the frosts were very destructive to early vegetables and to the peach crop. Large fires were kept burning in the vicinity during the night of the 28-29th. In some orchards in Pulaski county many barrels of coal oil were consumed in trying to save the peach buds.

The following is from the March, 1887, report of the "South Carolina Weather Service:"

The heavy frost of the 18th and 19th did considerable damage to early vege-

Table of comparative maximum and minimum temperatures for March.

State or Territory.	Station.	For 1887.		Since establishment of station.			
		Max.	Min.	Max.	Year.	Min.	Year.
Alabama	Mobile	76.8	36.2	85.0	1879	29.0	1885
Do	Montgomery	79.9	32.4	86.3	1882	25.0	1873
Arizona	Prescott	76.2	23.1	90.0	1879	8.0	1876
Do	Fort Apache	78.9	21.8	83.0	1879	11.0	1881
Arkansas	Fort Smith	76.0	28.0	82.8	1884	23.5	1884
Do	Little Rock	74.9	30.0	83.0	1882	23.0	1886
California	San Francisco	78.0	45.0	77.0	1879	39.0	1880
Do	San Diego	82.2	43.5	99.0	1879	38.0	1880
Colorado	Denver	74.7	13.2	81.0	1879	10.7	1886
Do	Pike's Peak	31.3	4.9	43.0	1879	29.0	1875
Connecticut	New Haven	51.4	11.5	69.0	1880	0.2	1885
Do	New London	53.3	15.2	64.0	1878	4.0	1884
Dakota	Fort Buford	59.0	9.8	70.0	1879, 1882	23.0	1880
Do	Yankton	77.5	1.5	87.0	1879	16.0	1876, 1880
District of Columbia	Washington City	65.0	20.8	79.0	1880	4.0	1873
Florida	Jacksonville	80.0	35.7	88.0	1882	31.0	1873, 1876
Do	Key West	81.6	58.4	89.0	1873, 1874	53.0	1873, 1886
Georgia	Atlanta	73.5	25.2	81.0	1882	20.4	1885
Do	Savannah	81.2	32.5	87.0	1882	27.0	1873
Idaho	Boise City	73.6	23.8	76.0	1881	9.0	1882
Illinois	Cairo	74.6	24.2	84.0	1879	10.0	1873
Do	Chicago	68.0	9.3	73.0	1875	12.0	1873
Indiana	Indianapolis	69.6	15.8	77.0	1875	3.2	1885
Indian Territory	Fort Sill	86.0	26.0	95.0	1879	10.0	1880
Iowa	Dubuque	70.5	1.7	75.0	1875	10.0	1875
Do	Des Moines	72.4	9.8	80.0	1880	5.6	1884
Kansas	Dodge City	80.1	16.6	89.0	1879	8.0	1880
Do	Leavenworth	83.6	20.5	84.0	1879	2.0	1876
Kentucky	Louisville	79.3	18.0	79.0	1879	3.0	1873
Louisiana	New Orleans	80.8	43.8	84.0	1879	36.0	1885
Do	Shreveport	83.8	34.6	90.0	1882	26.0	1876
Maine	Eastport	45.0	2.0	53.0	1878	7.9	1886
Do	Portland	46.4	0.5	65.0	1874	7.0	1872
Maryland	Baltimore	56.6	21.4	76.0	1880	5.0	1873
Massachusetts	Boston	52.9	9.8	72.0	1880	7.5	1872
Michigan	Marquette	46.1	14.2	70.0	1878	16.0	1884
Do	Grand Haven	59.8	7.4	71.0	1878	4.9	1885
Minnesota	Saint Vincent	45.0	27.0	49.0	1881	31.0	1883
Do	Saint Paul	53.6	7.1	68.0	1879	22.5	1873
Mississippi	Vicksburg	80.1	36.9	85.0	1880	27.0	1885
Missouri	Saint Louis	79.1	22.9	82.0	1879	8.0	1873, 1876
Montana	Fort Assinaboine	60.2	14.7	68.2	1885	25.8	1884
Do	Helena	67.4	4.2	66.0	1881	10.0	1886
Nebraska	North Platte	78.0	10.0	86.0	1879	21.0	1880
Do	Omaha	78.1	10.2	82.0	1879	7.0	1880
Nevada	Winnemucca	74.7	17.7	82.0	1879	3.0	1882
New Hampshire	Mount Washington	32.3	25.9	47.0	1876	49.0	1872
New Jersey	Atlantic City	56.2	18.4	72.0	1880	8.0	1884
New Mexico	Santa Fe	67.0	19.5	82.0	1879	0.0	1880
New York	Buffalo	51.0	11.4	72.0	1875	4.1	1885
Do	New York City	49.6	16.3	72.0	1879	3.0	1872
North Carolina	Charlotte	79.7	26.8	79.0	1879, 1880	23.0	1884
Do	Wilmington	81.9	27.7	84.0	1878	20.0	1873
Ohio	Cincinnati	73.0	18.6	77.0	1875	1.0	1873
Do	Sandusky	62.0	10.9	76.0	1886	3.4	1885
Oregon	Portland	75.2	31.2	79.0	1886	25.5	1880
Do	Roseburg	81.0	28.6	80.0	1881, 1883	19.0	1880
Pennsylvania	Pittsburg	68.5	14.9	80.0	1876	2.0	1877
Do	Philadelphia	53.3	21.8	75.0	1880	5.0	1872
Rhode Island	Block Island	53.7	17.2	66.0	1886	5.8	1886
South Carolina	Charleston	80.0	33.9	85.0	1882	28.0	1876
Tennessee	Knoxville	75.6	21.6	83.0	1882	6.0	1873
Do	Memphis	76.8	30.2	85.0	1879	18.0	1876
Texas	Brownsville	84.8	46.9	92.3	1884	35.0	1880
Do	Fort Elliott	82.8	24.0	86.0	1880	3.0	1880
Utah	Salt Lake City	73.9	27.5	77.0	1879	4.0	1874
Virginia	Lynchburg	80.6	23.5	79.0	1879	16.0	1884
Do	Norfolk	75.8	25.1	81.0	1880	16.0	1882
Washington Ter.	Spokane Falls	65.7	15.2	74.0	1881	7.0	1882
Do	Olympia	63.2	25.2	71.0	1881	23.1	1880
Wisconsin	La Crosse	65.9	1.0	72.0	1875	23.0	1873
Do	Milwaukee	56.8	4.2	70.0	1878	8.5	1884

18th, 19th, 20th, 23d, 24th, 25th, 30th; Sanford, 1st, 18th, 19th; Duke, 1st, 19th 20th, 24th, 30th; Manatee, 1st, 29th; Alva, 15th, 17th, 18th.

East Gulf states.—15th, 18th to 20th, 22d, 23d, 29th, 30th.

West Gulf states.—10th, 11th, 14th, 17th, 18th, 21st to 25th, 28th, 29th, 30th.

Tennessee.—11th to 15th, 18th to 20th, 23d, 25th, 28th to 31st.

Ohio Valley.—1st to 6th, 8th to 31st.

Lake region.—1st to 31st.

Extreme northwest.—2d to 10th, 12th to 31st.

Upper Mississippi and Missouri valleys.—1st to 31st.

Northern slope.—1st to 31st.

Middle slope.—1st to 12th, 15th to 23d, 25th to 28th, 30th, 31st.

Southern slope.—1st to 6th, 8th to 11th, 13th, 14th, 16th, 17th,

20th to 25th, 27th, 28th, 29th, 31st.

Southern plateau.—1st 2d, 3d, 5th to 13th, 15th to 18th, 20th

to 25th, 28th to 31st.

Middle plateau.—1st to 23d, 25th to 31st.

Northern plateau.—1st, 3d, 4th, 5th, 8th to 13th, 16th, 18th

to 23d, 25th to 30th.

North Pacific coast region.—1st to 4th, 10th, 12th, 17th to

22d, 26th, 27th, 29th, 30th.

Middle Pacific coast region.—1st, 5th, 6th, 8th, 18th to 21st.

ICE.

Ice formed in the southern parts of the country as follows:

Arkansas.—Lead Hill, 22d, 23d, 28th, 29th; Little Rock, 29th.

Georgia.—Savannah, 28th, 31st.

Louisiana.—Liberty Hill, 22d, 23d.

South Carolina.—Spartanburg and Stateburg, 15th, 18th,

19th, 20th, 29th, 30th; Charleston, 18th, 29th.

Texas.—Corsicana, 23d, 28th, Palestine, 28th.

TEMPERATURE OF WATER.

The following table shows the maximum and minimum temperature of the water at the several stations; the monthly ranges of water temperature; the mean water temperature; the average depth at which the observations were made; and the mean temperature of the air:

Temperature of water for March, 1887.

Station.	Temperature at bottom.		Range.	Mean water temperature.	Mean temperature of the air at station.	Average depth, feet and tenths.
	Max.	Min.				
Alpena, Mich. a	o	o	o	o	o	o
Baltimore, Md	41.5	37.8	3.7	39.4	37.8	11.6
Boston, Mass.	37.9	31.0	6.9	34.5	31.6	22.9
Buffalo, N. Y. a	72.4	57.3	5.1	64.6	61.3	8.3
Cedar Keys, Fla.	58.9	54.3	4.6	56.6	54.8	36.0
Charleston, S. C. b	51.4	37.4	14.0	42.7	40.3	3.3
Chincoteague, Va.						
Cleveland, Ohio a						
Detroit, Mich. a						
Duluth, Minn. a	36.0	34.0	2.0	35.1	28.5	14.1
Eastport, Me.						
Escanaba, Mich. a	36.1	32.1	4.0	33.7	27.3	17.8
Grand Haven, Mich.	69.9	56.1	13.8	63.4	59.5	18.0
Jacksonville, Fla.	78.3	69.0	9.3	74.3	70.7	18.9
Key West, Fla.	57.0	52.3	4.7	54.6	58.9	16.2
Mobile, Ala.	57.0	52.3	4.7	54.6	58.9	16.2
New London, Conn.	38.2	33.1	5.1	35.7	34.3	14.9
New York City	49.3	44.2	5.1	46.4	44.1	15.7
Norfolk, Va.	68.4	58.3	10.1	64.4	60.2	18.0
Pensacola, Fla.	37.1	30.0	7.1	33.9	28.8	17.0
Portland, Me.	45.2	40.6	4.6	45.6	49.4	57.4
Portland, Oregon	38.0	33.0	5.0	35.1	31.6	11.5
Sandusky, Ohio c	59.4	53.3	6.1	56.4	56.5	10.3
Savannah, Ga.	42.5	33.2	9.3	38.2	31.8	15.8
Toledo, Ohio d						

a Frozen throughout the month. b Record for 26 days. c Record for 20 days; observations interrupted by ice. d Record for 29 days; observations interrupted by ice.

PRECIPITATION (expressed in inches and hundredths).

The distribution of precipitation over the United States and Canada for March, 1887, as determined from the reports of about six hundred stations, is exhibited on chart iii. In the

table of miscellaneous meteorological data are given, for each Signal Service station, the total precipitation, with the departures from the normal. The figures above the several geo-

tables and fruit, especially in the upper counties, while the freeze on the 29th and 30th was very disastrous throughout the state; much of the fruit which survived the first-mentioned frost succumbing to the latter. All the early varieties of peaches were killed. Plums and cherries suffered severely. Strawberries were set back about two weeks. In some instances potatoes were injured, while beans, cucumbers, and squashes were killed.

Frosts occurred in the various districts as follows:

New England.—1st to 31st.

Middle Atlantic states.—1st to 31st.

South Atlantic states.—1st, 2d, 3d, 10th to 20th, 22d, 23d, 24th, 26th, 29th, 30th, 31st.

Florida.—Cedar Keys and Limona, 1st; Archer, 1st, 2d, 15th,